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		Application Number	09/663,872
		Filing Date	September 15, 2000
		First Named Inventor	Sanchez
		Art Unit	1762
		Examiner Name	Bareford
Total Number of Pages in This Submission	24	Attorney Docket Number	D/A0664 (XERZ 2 00608)

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Firm or Individual name	Richard M. Klein Fay, Sharpe, Fagan, Minnich & McKee, LLP
Signature	
Date	November 19, 2003

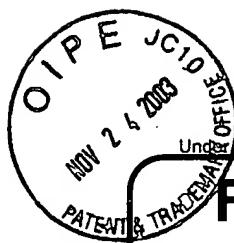
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Applicant claims small entity status. See 37 CFR 1.27

**TOTAL AMOUNT OF PAYMENT** **(\$)** 330.00

## Complete if Known

Application Number	09/663,872
Filing Date	September 15, 2000
First Named Inventor	Sanchez
Examiner Name	Bareford
Art Unit	1762
Attorney Docket No.	D/A0664 (XERZ 2 00608)

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1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
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Lynda S Kalember

**PATENT APPLICATION**

**ATTORNEY DOCKET NO. D/A0664**  
**XERZ 2 00608**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

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**In re: J. Michael Sanchez et al.**

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**Application No.: 09/663,872**

**Examiner: K. A. Bareford**

**Filed: September 15, 2000**

**Group Art Unit: 1762**

**Title: DEFLOCCULATION APPARATUS AND METHODS THEREOF**

**APPELLANTS' BRIEF ON APPEAL**

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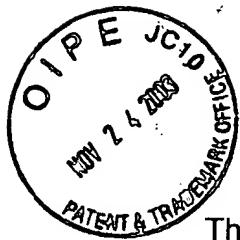
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This brief is in furtherance of the Notice of Appeal that was filed in the above-referenced patent application on September 19, 2003.

The fees required under 37 C.F.R. § 1.17 are dealt with in the accompanying Transmittal of Appeal Brief.

Appellants submit herewith an Appeal Brief in connection with the above-identified application, wherein claims 1, 4-12, 15-21, 23, and 25-27 were finally rejected in the Office Action of June 4, 2003. What follows is Appellants' Appeal Brief (submitted in triplicate) in accordance with 37 C.F.R. §1.192(a).

## **1. REAL PARTY OF INTEREST**

The real parties in interest in this appeal are the inventors named in the caption of this brief, J. Michael Sanchez et al., and the assignee, Xerox Corporation.

## **2. RELATED APPEALS AND INTERFERENCES**

Appellants are not presently aware of related appeals or interferences currently pending from any applications from which the present application bases its priority.

### **3. STATUS OF CLAIMS**

The status of the claims set forth after the Final Office Action mailed November 15, 2002, was, and is, as follows:

Allowed claims: **none**

Rejected claims: **1, 4-12, 15-21, 23, and 25-27**

Cancelled claims **2-3, 13-14, 22, and 24**

The present appeal is directed specifically to claims 1, 4-12, 15-21, 23, and 25-27.

### **4. STATUS OF AMENDMENTS**

In the final Office Action of November 15, 2002, the Examiner withdrew a previous objection to claim 24 under 37 C.F.R. § 1.75(c). The Examiner also withdrew the rejection of claims 1, 4-12, and 15-19 under 35 U.S.C. § 112, second paragraph. The rejection of claims 21 and 26 under 35 U.S.C. § 102(b) was withdrawn. Claims 1, 4-7, 10, 12, 16-20, and 27 were rejected under 35 U.S.C. § 103(a) based on U.S. Patent 5,576,075 to Kawasaki in view of U.S. Patent 3,890,240 to Hochberg. Claims 8-9 and 15 were rejected under 35 U.S.C. § 103(a) based upon the Kawasaki patent in view of the Hochberg patent and further in view of European Patent 472 459 A1 (hereinafter '459). Claims 21, 23, and 25-26 are rejected under 35 U.S.C. § 103(a) over Kawasaki in view of the '459 patent. Claim 11 is rejected under 35 U.S.C. § 103(a) over Kawasaki in view of Hochberg and further in view of U.S. Patent 4,112,549 to Min.

## 5. SUMMARY OF INVENTION

The present development provides, in an aspect, a method including sonicating a stream containing a dispersion comprised of agglomerated primary particles and filtering the resulting sonicated stream containing a dispersion comprised of deagglomerated primary particles (page 5, lines 8-12). The method can further include coating the resulting sonicated stream onto a receiver surface, such as a photoreceptor substrate, preferably a photoreceptor substrate previously coated with a charge blocking layer, charge generating layer, or charge transport layer compositions (page 6, lines 7-13).

## 6. ISSUES

Whether the rejection of claims 1, 4-7, 10, 12, 16-20, and 27 under 35 U.S.C. § 103(a) as being unpatentable over Kawasaki in view of Hochberg is sustainable.

Whether the rejection of claims 8-9 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Kawasaki in view of Hochberg and further in view of '459 is sustainable.

Whether the rejection of claims 21, 23, and 25-26 under 35 U.S.C. § 103(a) as being unpatentable over Kawasaki in view of '459 is sustainable.

Whether the rejection of claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Kawasaki in view of Hochberg and further in view of Min is sustainable.

## **7. GROUPING OF CLAIMS**

The claims do not stand or fall together; for purposes of convenience, the claims are grouped as follows:

Group I: claims 1, 4-7, 10, 12, 16-20, and 27

Group II: claims 8-9 and 15

Group III: claims 21, 23, and 25-26

Group IV: claim 11

Each of the grouping of claims and the claims in each group are to be considered by the Board considering the arguments and comments rendered herein.

## **8. ARGUMENT**

### **A. Background**

It is submitted that the Examiner, in rejecting the claims, has made improper "obvious to try" rejections and has cited references from nonanalogous art.

### **B. The Rejection of Claims 1, 4-7, 10, 12, 16-20, and 27 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of Hochberg Must Be Reversed**

In support of the rejection of claims 1, 4-7, 10, 12, 16-20, and 27 under 35 U.S.C. § 103(a), the Examiner asserted that Kawasaki teaches a method and apparatus for sonicating, filtering, and coating (col. 1, lines 1-15 and col. 6, lines 35-55), a stream containing a dispersion is subjected to a sonicating treatment (col. 2, lines 35-55), the dispersion contains primary particles (col. 1, lines 20-25 and col. 6, lines 35-55), and the resulting sonicated stream containing a dispersion comprised of deagglomerated primary particles is then filtered (col. 6, lines 35-55). The Examiner further asserts that

the particles are then separated in the resulting stream because they are deagglomerated. The filtered and sonicated stream is then coated onto a receiver surface (col. 2, lines 45-55).

Hochberg teaches a process for providing liquid dispersions of toner materials to be applied to a surface (col. 1, lines 5-15). The toner is in the form of particles including carbon black and a dye or pigment (col. 1, lines 55-68). The particles have a tendency to agglomerate, and it is necessary to control this agglomeration to provide desirable coating (col. 3, lines 15-35). As a way for dispersing the particles, Hochberg teaches high frequency, ultrasonic agitation (col. 20, lines 1-55). As taught the particles would be photosensitive (col. 1, lines 5-30). The toner is applied to a charged photoconductive layer (col. 1, lines 15-30).

The Examiner then states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawasaki to provide the missing features of these claims in order to provide a desirable coated surface. The Examiner then recites a list of six allegedly obvious modifications necessary to achieve the method and apparatus of the present claims.

Applicants submit the Examiner's rejection is an impermissible "obvious to try" analysis. *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984). The Examiner has shown no motivation, either explicit or implicit, within either of Kawasaki or Hochberg that would lead one of ordinary skill in the art, upon reading and understanding the references, to modify and vary these parameters. Even if the Examiner were correct in his contention that these six modifications of Kawasaki and Hochberg would result in

the present invention, it is unreasonable to believe that a combination of two disparate references plus six modifications could be “obvious.”

Appellants assert that it could only be through the use of impermissible hindsight that the Examiner could reach a conclusion of obviousness based on no less than six modifications. The Examiner has used the Appellant’s disclosure as a guide through the references, combining the references in just the right order to arrive at the Appellant’s claimed invention. This is an impermissible approach. See *Grain Processing Corp. v. American Maize-Pros. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988).

Moreover, Appellants assert that the optimization of six parameters, each relative to the other, could only be achieved through the use of undue experimentation. Such optimization of parameters, only achievable through the use of undue experimentation cannot be obvious. The Examiner has not pointed to any suggestion, motivation, or incentive for modifying either reference to arrive at Appellants disclosure. See *In re Laskowski*, 871 F.2d 115, 117 (Fed. Cir. 1989) (“[T]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification”) (quoting *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984)). The Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998). See also *In re Napier*, 55 F.3d 610, 631 (Fed. Cir. 1995) (“Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination.”).

The Examiner has stated that no “obvious to try to modify” statement was made in the rejections. While the Examiner did not explicitly use the “obvious to try” language, the suggested modifications are certainly “obvious to try” modifications, due to the fact that the individual optimization of each suggestion is not obvious. The Examiner has listed items (1) through (6) and states that it would have been obvious to modify and vary these parameters or try these 6 possible choices to arrive at the Appellant’s invention where the references gave no indication of which parameters were critical and no suggestion is found within the references themselves for these 6 modifications.

Appellants submit the rejection of Claims 1, 4-7, 10, 12, 16-20, and 27 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of Hochberg was improper and must be reversed.

**C. The Rejection of Claims 8-9 and 15 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of Hochberg and Further in view of ‘459 Must Be Reversed**

In support of the rejection of claims 8-9 and 15 under 35 U.S.C. § 103(a), the Examiner asserted that ‘459 teaches an ultrasonicator is provided to ultrasonicate a stream of liquid dispersion of agglomerated primary particles.

The Examiner then suggests it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawasaki in view of Hochberg to further provide an ultrasonicator for the filter as suggested by ‘459 with an expectation of desirable coating results, because Kawasaki in view of Hochberg teaches a desirable sonication process to provide dispersed particles that include filtration of the treated stream, and ‘459 teaches that it is desirable to further provide an

ultrasonicator for a filter member after sonicating a stream of dispersed particles to break up the agglomeration so as to provide further deagglomeration. It is then alleged that it would have been obvious to modify Kawasaki in view of Hochberg to provide that the filtering removes objectionable contaminants (i.e., particles of a size larger than the deagglomerated particles) as suggested by '459 with an expectation of desirable coating results, because Kawasaki teaches filtering the sonicated dispersion, and '459 teaches that when filtering a sonicated dispersion, it is desirable to remove overly large particles.

Appellants submit the Examiner is again using an impermissible hindsight analysis. The Examiner has not pointed out in either reference the filtering of at least one objectionable contaminant or wherein the contaminant has an average diameter particle size greater than the average diameter of the deagglomerated particles, nor any suggestion or motivation for combining three references to arrive at the Appellant's disclosure. It seems that the Examiner has used the Appellant's disclosure as a guide in order to piece together references and reconstruct that Appellant's invention.

Moreover, '459 is nonanalogous art. For purposes of evaluating the obviousness of claimed subject matter, one must make certain that a particular reference relied upon constitutes "analogous art." *In re Clay*, 966 F.2d 656, 658-659 (Fed. Cir. 1992). The Examiner has stated that it has been held that a prior art reference must either be in the field of the Applicant's endeavor, or, if not, then reasonably pertinent to the particular problem with which the Applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992). Appellants assert it has also been held that to be

analogous art, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

A person of ordinary skill in the imaging toner art will not likely know about references in the radioactive fuel reclamation art. Further, the problems associated with treating spent nuclear reactor fuel elements are not reasonably related to problems in the imaging arts. The '459 reference relates to treating a residue resulting from dissolving spent nuclear reactor fuel elements in hot nitric acid, and would not have logically commended itself to the present inventor's attention in considering his problem. Appellants assert that the problems associated with treating spent nuclear reactor fuel elements are not reasonably related to the problems in the imaging arts. For this reason, an inventor would not logically look to the '459 reference for guidance in solving problems faced in the imaging arts. A person of ordinary skill in the imaging arts would have no motivation to consider radioactive fuel reclamation art in solving problems in the imaging arts. This is especially true in view of the toxicity issues driving radioactive fuel reclamation that do not drive the present invention. Appellants submit that the '459 reference is not analogous art.

Due to the above-discussed non-obviousness of the proposed combination and the nonanalogous nature of the '459 reference, the rejection of claims 8-9 and 15 under 35 U.S.C. § 103 (a) as being unpatentable over Kawasaki in view of Hochberg and further in view of '459 is improper and must be reversed.

**D. The Rejection of Claims 21, 23, and 25-26 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of '459 Must Be Reversed**

In support of the rejection of claims 21, 23, and 25-26 under 35 U.S.C. § 103(a), the Examiner has stated that Kawasaki teaches a method and apparatus for using an ultrasonicator.

The Examiner then alleges that Kawasaki teaches all the features of these claims except for the treatment using a second sonicator to sonicate the filter, but '459 teaches an ultrasonicator is provided to ultrasonicate a stream of liquid dispersion of agglomerated primary particles.

The Examiner believes it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawasaki to further provide a ultrasonicator for the filter as suggested by '459 with an expectation of desirable coating results, because Kawasaki teaches a desirable sonication process to provide dispersed particles that includes filtration of the treated stream, and '459 teaches that it is desirable to further provide an ultrasonicator for a filter member after sonicating a stream of dispersed particles to break up the agglomeration so as to provide further deagglomeration.

Appellants submit the Examiner has not pointed to any suggestion within the '459 reference for combining the reference that relates to the homogenizing and conveyance of a mixture of radioactive fuel residue with a reference for a composition and method for the production of magnetic recording medium to arrive at Appellant's disclosure. Further, and as discussed above, '459 is nonanalogous art. For purposes of evaluating the obviousness of claimed subject matter, one must make certain that a particular reference relied upon constitutes "analogous art." *In re Clay*, 966 F.2d 656,

658-659 (Fed. Cir. 1992). The Examiner has stated that it has been held that a prior art reference must either be in the field of the Applicant's endeavor, or, if not, then reasonably pertinent to the particular problem with which the Applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992). Appellants assert it has also been held that to be analogous art, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

A person of ordinary skill in the imaging toner art will not likely know about references in the radioactive fuel reclamation art. Further, the problems associated with treating spent nuclear reactor fuel elements are not reasonably related to problems in the imaging arts. The '459 reference relates to treating a residue resulting from dissolving spent nuclear reactor fuel elements in hot nitric acid, and would not have logically commended itself to the present inventor's attention in considering his problem. Appellants assert that the problems associated with treating spent nuclear reactor fuel elements are not reasonably related to the problems in the imaging arts. For this reason, an inventor would not logically look to the '459 reference for guidance in solving problems faced in the imaging arts. A person of ordinary skill in the imaging arts would have no motivation to consider radioactive fuel reclamation art in solving problems in the imaging arts. This is especially true in view of the toxicity issues driving radioactive fuel reclamation that do not drive the present invention.

Appellants submit that the '459 reference is not analogous art and the rejection of claims 21, 23, and 25-56 under 35 U.S.C. § 103(a) over Kawasaki in view of '459 is thus improper and must be reversed.

**E. The Rejection of Claim 11 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of Hochberg and Further in view of Min Must Be Reversed**

In support of the rejection of claim 11 under 35 U.S.C. § 103(a), the Examiner has stated that Kawasaki in view of Hochberg teaches all the features of these claims except the gas carrier vehicle, and Min teaches a process for sonicating a stream containing a dispersion of agglomerated primary particles. The Examiner believes it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawasaki in view of Hochberg to use the sonicating process to also sonicate particles in dispersion in a gas stream as suggested by Min with an expectation of desirable coating results, because Kawasaki in view of Hochberg teaches a desirable sonication process to provide dispersed particles, and Min teaches that it is desirable to sonicate suspended in air as well as liquid.

Appellants submit the Examiner has failed to point out in reference to Min any suggestion, motivation, or incentive for combining an apparatus for the deflocculation of a dry suspension of fibers with a method for the production of magnetic recording media, together with a composition and method of preparing toner. Additionally, the Examiner has failed to explicitly say what the references implied that would suggest of motivate one of ordinary skill to combine the references.

Moreover, Min is nonanalogous art. For purposes of evaluating the obviousness of claimed subject matter, one must make certain that a particular

reference relied upon constitutes “analogous art.” *In re Clay*, 966 F.2d 656, 658-659 (Fed. Cir. 1992). The Examiner has stated that it has been held that a prior art reference must either be in the field of the Applicant’s endeavor, or, if not, then reasonably pertinent to the particular problem with which the Applicant was concerned , in order to be relied upon as a basis for rejection of the claimed invention. *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992). Appellants assert it has also been held that to be analogous art, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

A person of ordinary skill in the imaging toner art will not likely know about references in the paper making art. Moreover, the disclosure of Min would not be “logically commended” to an inventor in the imaging arts field. The Examiner has not shown why one of ordinary skill in the imaging arts would have motivation to turn to the paper arts to solve problems in the field of imaging arts. Furthermore, the Examiner has shown no motivation, either explicit or implicit, in any of the three cited references that would lead one of ordinary skill in the imaging arts to combine a reference relating to magnetic recording media with a reference from the paper arts.

Because Min is nonanalogous art, Appellants assert claim 11 is not obvious over Kawasaki in view of Hochberg and further in view of Min. Accordingly, the 35 U.S.C. § 103(a) rejection of claim 11 is improper and must be reversed.

**F. Conclusion**

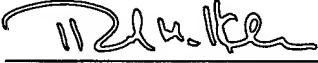
Appellants submit that claims 1, 4-12, 15-21, 23, and 25-27 are in condition for allowance.

Accordingly, it is requested that the Examiner's rejections of claims 1, 4-12, 15-21, 23, and 25-27 be reversed.

Respectfully submitted,

FAY, SHARPE, FAGAN,  
MINNICH & MCKEE, LLP

11/19/2003  
Date



Richard M. Klein  
Reg. No. 33,000  
1100 Superior Avenue, 7<sup>th</sup> Floor  
Cleveland, Ohio 44114-2579  
(216) 861-5582

9. APPENDIX:

1. (Previously Presented) A method comprising:  
sonicating a stream containing a dispersion comprised of agglomerated primary particles; filtering the resulting sonicated stream containing a dispersion comprised of de-agglomerated primary particles and further comprising coating the resulting sonicated stream onto a receiver surface wherein the receiver surface is a coated photoreceptor substrate and wherein the de-agglomerated primary particles are separated in the resulting sonicated stream.
2. (Cancelled).
3. (Cancelled).
4. (Previously Presented) The method in accordance with **claim 1**, wherein the primary particles are toner particles comprised of a mixture of at least one colorant and a resin.
5. (Original) The method in accordance with **claim 1**, wherein the agglomerated primary particles are present in the stream in an amount of from about 0 to about 60 weight percent based on the total weight of the stream

6. (Original) The method in accordance with **claim 1**, wherein the de-agglomerated primary particles have a volume average diameter of from about 0.005 to about 20 micrometers.

7. (Original) The method in accordance with **claim 1**, wherein the primary particle is at least one colorant.

8. (Original) The method in accordance with **claim 1**, wherein the filtering removes at least one objectionable contaminant contained in the stream of de-agglomerated primary particles.

9. (Original) The method in accordance with **claim 8**, wherein the contaminant has an average diameter particle size greater than the average diameter of ultrasonically de-agglomerated particles.

10. (Original) The method in accordance with **claim 1**, wherein the stream further comprises a continuous liquid phase carrier vehicle.

11. (Original) The method in accordance with **claim 1**, wherein the stream further comprises a continuous gas phase carrier vehicle.

12. (Original) The method in accordance with **claim 1**, wherein the sonication is accomplished with at least one ultrasonic member.

13. (Cancelled).

14. (Cancelled).

15. (Original) The method in accordance with **claim 1**, further comprising sonicating the filter media with a second sonicator during the filtering of the sonicated stream.

16. (Original) The method in accordance with **claim 1**, further comprising measuring the stream pressure just prior to filtering.

17. (Original) The method in accordance with **claim 1**, further comprising re-agglomerating the resulting de-agglomerated primary particles.

18. (Original) The method in accordance with **claim 1**, further comprising analyzing the sonicated stream for third particles arising from degradation of the primary particles during sonication.

19. (Original) The method in accordance with **claim 1**, the stream of agglomerated or de-agglomerated particles further comprises at least one surfactant.

20. (Original) A method comprising:

ultrasonicallyating a stream of a dispersion of agglomerated photosensitive particles;

filtering the resulting ultrasonicated stream containing a dispersion of de-agglomerated photosensitive particles; and

coating the resulting ultrasonicated stream onto a receiver surface.

21. (Previously Presented) An apparatus comprising:

an ultrasonicator adapted to ultrasonicate a stream of a liquid dispersion of agglomerated primary particles; a filter member adapted to filter the resulting ultrasonicated stream containing a dispersion of de-agglomerated primary particles; and further comprising a second ultrasonicator adapted to ultrasonicate the filter member and a coater adapted to coat the resulting filtered stream containing a dispersion of de-agglomerated primary particles onto a receiver.

22. (Cancelled).

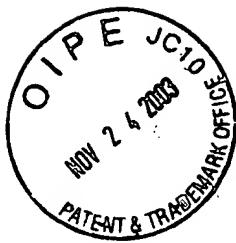
23. (Original) The apparatus in accordance with claim 22, wherein the coated receiver is substantially free of agglomerated primary particles.

24. (Cancelled).

25. (Previously Presented) The apparatus in accordance with claim 21, wherein the second ultrasonicator ultrasonicates the filter member when the coater is inactive.

26. (Previously Presented) A method comprising:  
sonicating a stream containing a dispersion comprised of agglomerated primary particles; filtering the resulting sonicated stream containing a dispersion comprised of de-agglomerated primary particles, further comprising sonicating the filter media with a second sonicator during the filtering of the sonicated stream; and coating the resulting filtered stream containing a dispersion of de-agglomerated primary particles onto a receiver.

27. (Previously Presented) An apparatus comprising:  
an ultrasonicator adapted to ultrasonicate a stream of a liquid dispersion of agglomerated primary particles;  
a filter member adapted to filter the resulting ultrasonicated stream containing a dispersion of de-agglomerated primary particles; and  
a coater adapted to coat the resulting filtered stream containing a dispersion of de-agglomerated primary particles onto a receiver, wherein the receiver is a coated photoreceptor substrate.



This brief is in furtherance of the Notice of Appeal that was filed in the above-referenced patent application on September 19, 2003.

The fees required under 37 C.F.R. § 1.17 are dealt with in the accompanying Transmittal of Appeal Brief.

Appellants submit herewith an Appeal Brief in connection with the above-identified application, wherein claims 1, 4-12, 15-21, 23, and 25-27 were finally rejected in the Office Action of June 4, 2003. What follows is Appellants' Appeal Brief (submitted in triplicate) in accordance with 37 C.F.R. §1.192(a).

## **1. REAL PARTY OF INTEREST**

The real parties in interest in this appeal are the inventors named in the caption of this brief, J. Michael Sanchez et al., and the assignee, Xerox Corporation.

## **2. RELATED APPEALS AND INTERFERENCES**

Appellants are not presently aware of related appeals or interferences currently pending from any applications from which the present application bases its priority.

### **3. STATUS OF CLAIMS**

The status of the claims set forth after the Final Office Action mailed November 15, 2002, was, and is, as follows:

Allowed claims: **none**

Rejected claims: **1, 4-12, 15-21, 23, and 25-27**

Cancelled claims **2-3, 13-14, 22, and 24**

The present appeal is directed specifically to claims **1, 4-12, 15-21, 23, and 25-27**.

### **4. STATUS OF AMENDMENTS**

In the final Office Action of November 15, 2002, the Examiner withdrew a previous objection to claim 24 under 37 C.F.R. § 1.75(c). The Examiner also withdrew the rejection of claims 1, 4-12, and 15-19 under 35 U.S.C. § 112, second paragraph. The rejection of claims 21 and 26 under 35 U.S.C. § 102(b) was withdrawn. Claims 1, 4-7, 10, 12, 16-20, and 27 were rejected under 35 U.S.C. § 103(a) based on U.S. Patent 5,576,075 to Kawasaki in view of U.S. Patent 3,890,240 to Hochberg. Claims 8-9 and 15 were rejected under 35 U.S.C. § 103(a) based upon the Kawasaki patent in view of the Hochberg patent and further in view of European Patent 472 459 A1 (hereinafter '459). Claims 21, 23, and 25-26 are rejected under 35 U.S.C. § 103(a) over Kawasaki in view of the '459 patent. Claim 11 is rejected under 35 U.S.C. § 103(a) over Kawasaki in view of Hochberg and further in view of U.S. Patent 4,112,549 to Min.

## **5. SUMMARY OF INVENTION**

The present development provides, in an aspect, a method including sonicating a stream containing a dispersion comprised of agglomerated primary particles and filtering the resulting sonicated stream containing a dispersion comprised of deagglomerated primary particles (page 5, lines 8-12). The method can further include coating the resulting sonicated stream onto a receiver surface, such as a photoreceptor substrate, preferably a photoreceptor substrate previously coated with a charge blocking layer, charge generating layer, or charge transport layer compositions (page 6, lines 7-13).

## **6. ISSUES**

Whether the rejection of claims 1, 4-7, 10, 12, 16-20, and 27 under 35 U.S.C. § 103(a) as being unpatentable over Kawasaki in view of Hochberg is sustainable.

Whether the rejection of claims 8-9 and 15 under 35 U.S.C. § 103(a) as being unpatentable over Kawasaki in view of Hochberg and further in view of '459 is sustainable.

Whether the rejection of claims 21, 23, and 25-26 under 35 U.S.C. § 103(a) as being unpatentable over Kawasaki in view of '459 is sustainable.

Whether the rejection of claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Kawasaki in view of Hochberg and further in view of Min is sustainable.

## **7. GROUPING OF CLAIMS**

The claims do not stand or fall together; for purposes of convenience, the claims are grouped as follows:

Group I: claims 1, 4-7, 10, 12, 16-20, and 27

Group II: claims 8-9 and 15

Group III: claims 21, 23, and 25-26

Group IV: claim 11

Each of the grouping of claims and the claims in each group are to be considered by the Board considering the arguments and comments rendered herein.

## **8. ARGUMENT**

### **A. Background**

It is submitted that the Examiner, in rejecting the claims, has made improper "obvious to try" rejections and has cited references from nonanalogous art.

### **B. The Rejection of Claims 1, 4-7, 10, 12, 16-20, and 27 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of Hochberg Must Be Reversed**

In support of the rejection of claims 1, 4-7, 10, 12, 16-20, and 27 under 35 U.S.C. § 103(a), the Examiner asserted that Kawasaki teaches a method and apparatus for sonicating, filtering, and coating (col. 1, lines 1-15 and col. 6, lines 35-55), a stream containing a dispersion is subjected to a sonicating treatment (col. 2, lines 35-55), the dispersion contains primary particles (col. 1, lines 20-25 and col. 6, lines 35-55), and the resulting sonicated stream containing a dispersion comprised of deagglomerated primary particles is then filtered (col. 6, lines 35-55). The Examiner further asserts that

the particles are then separated in the resulting stream because they are deagglomerated. The filtered and sonicated stream is then coated onto a receiver surface (col. 2, lines 45-55).

Hochberg teaches a process for providing liquid dispersions of toner materials to be applied to a surface (col. 1, lines 5-15). The toner is in the form of particles including carbon black and a dye or pigment (col. 1, lines 55-68). The particles have a tendency to agglomerate, and it is necessary to control this agglomeration to provide desirable coating (col. 3, lines 15-35). As a way for dispersing the particles, Hochberg teaches high frequency, ultrasonic agitation (col. 20, lines 1-55). As taught the particles would be photosensitive (col. 1, lines 5-30). The toner is applied to a charged photoconductive layer (col. 1, lines 15-30).

The Examiner then states that it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawasaki to provide the missing features of these claims in order to provide a desirable coated surface. The Examiner then recites a list of six allegedly obvious modifications necessary to achieve the method and apparatus of the present claims.

Applicants submit the Examiner's rejection is an impermissible "obvious to try" analysis. *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984). The Examiner has shown no motivation, either explicit or implicit, within either of Kawasaki or Hochberg that would lead one of ordinary skill in the art, upon reading and understanding the references, to modify and vary these parameters. Even if the Examiner were correct in his contention that these six modifications of Kawasaki and Hochberg would result in

the present invention, it is unreasonable to believe that a combination of two disparate references plus six modifications could be “obvious.”

Appellants assert that it could only be through the use of impermissible hindsight that the Examiner could reach a conclusion of obviousness based on no less than six modifications. The Examiner has used the Appellant’s disclosure as a guide through the references, combining the references in just the right order to arrive at the Appellant’s claimed invention. This is an impermissible approach. See *Grain Processing Corp. v. American Maize-Pros. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988).

Moreover, Appellants assert that the optimization of six parameters, each relative to the other, could only be achieved through the use of undue experimentation. Such optimization of parameters, only achievable through the use of undue experimentation cannot be obvious. The Examiner has not pointed to any suggestion, motivation, or incentive for modifying either reference to arrive at Appellants disclosure. See *In re Laskowski*, 871 F.2d 115, 117 (Fed. Cir. 1989) (“[T]he mere fact that the prior art could be so modified would not have made the modification obvious unless the prior art suggested the desirability of the modification”) (quoting *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984)). The Examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination in the manner claimed. *In re Rouffet*, 149 F.3d 1350 (Fed. Cir. 1998). See also *In re Napier*, 55 F.3d 610, 631 (Fed. Cir. 1995) (“Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion, or incentive supporting the combination.”).

The Examiner has stated that no “obvious to try to modify” statement was made in the rejections. While the Examiner did not explicitly use the “obvious to try” language, the suggested modifications are certainly “obvious to try” modifications, due to the fact that the individual optimization of each suggestion is not obvious. The Examiner has listed items (1) through (6) and states that it would have been obvious to modify and vary these parameters or try these 6 possible choices to arrive at the Appellant’s invention where the references gave no indication of which parameters were critical and no suggestion is found within the references themselves for these 6 modifications.

Appellants submit the rejection of Claims 1, 4-7, 10, 12, 16-20, and 27 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of Hochberg was improper and must be reversed.

**C. The Rejection of Claims 8-9 and 15 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of Hochberg and Further in view of ‘459 Must Be Reversed**

In support of the rejection of claims 8-9 and 15 under 35 U.S.C. § 103(a), the Examiner asserted that ‘459 teaches an ultrasonicator is provided to ultrasonicate a stream of liquid dispersion of agglomerated primary particles.

The Examiner then suggests it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawasaki in view of Hochberg to further provide an ultrasonicator for the filter as suggested by ‘459 with an expectation of desirable coating results, because Kawasaki in view of Hochberg teaches a desirable sonication process to provide dispersed particles that include filtration of the treated stream, and ‘459 teaches that it is desirable to further provide an

ultrasonicator for a filter member after sonicating a stream of dispersed particles to break up the agglomeration so as to provide further deagglomeration. It is then alleged that it would have been obvious to modify Kawasaki in view of Hochberg to provide that the filtering removes objectionable contaminants (i.e., particles of a size larger than the deagglomerated particles) as suggested by '459 with an expectation of desirable coating results, because Kawasaki teaches filtering the sonicated dispersion, and '459 teaches that when filtering a sonicated dispersion, it is desirable to remove overly large particles.

Appellants submit the Examiner is again using an impermissible hindsight analysis. The Examiner has not pointed out in either reference the filtering of at least one objectionable contaminant or wherein the contaminant has an average diameter particle size greater than the average diameter of the deagglomerated particles, nor any suggestion or motivation for combining three references to arrive at the Appellant's disclosure. It seems that the Examiner has used the Appellant's disclosure as a guide in order to piece together references and reconstruct that Appellant's invention.

Moreover, '459 is nonanalogous art. For purposes of evaluating the obviousness of claimed subject matter, one must make certain that a particular reference relied upon constitutes "analogous art." *In re Clay*, 966 F.2d 656, 658-659 (Fed. Cir. 1992). The Examiner has stated that it has been held that a prior art reference must either be in the field of the Applicant's endeavor, or, if not, then reasonably pertinent to the particular problem with which the Applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992). Appellants assert it has also been held that to be

analogous art, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

A person of ordinary skill in the imaging toner art will not likely know about references in the radioactive fuel reclamation art. Further, the problems associated with treating spent nuclear reactor fuel elements are not reasonably related to problems in the imaging arts. The '459 reference relates to treating a residue resulting from dissolving spent nuclear reactor fuel elements in hot nitric acid, and would not have logically commended itself to the present inventor's attention in considering his problem. Appellants assert that the problems associated with treating spent nuclear reactor fuel elements are not reasonably related to the problems in the imaging arts. For this reason, an inventor would not logically look to the '459 reference for guidance in solving problems faced in the imaging arts. A person of ordinary skill in the imaging arts would have no motivation to consider radioactive fuel reclamation art in solving problems in the imaging arts. This is especially true in view of the toxicity issues driving radioactive fuel reclamation that do not drive the present invention. Appellants submit that the '459 reference is not analogous art.

Due to the above-discussed non-obviousness of the proposed combination and the nonanalogous nature of the '459 reference, the rejection of claims 8-9 and 15 under 35 U.S.C. § 103 (a) as being unpatentable over Kawasaki in view of Hochberg and further in view of '459 is improper and must be reversed.

**D. The Rejection of Claims 21, 23, and 25-26 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of '459 Must Be Reversed**

In support of the rejection of claims 21, 23, and 25-26 under 35 U.S.C. § 103(a), the Examiner has stated that Kawasaki teaches a method and apparatus for using an ultrasonicator.

The Examiner then alleges that Kawasaki teaches all the features of these claims except for the treatment using a second sonicator to sonicate the filter, but '459 teaches an ultrasonicator is provided to ultrasonicate a stream of liquid dispersion of agglomerated primary particles.

The Examiner believes it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawasaki to further provide a ultrasonicator for the filter as suggested by '459 with an expectation of desirable coating results, because Kawasaki teaches a desirable sonication process to provide dispersed particles that includes filtration of the treated stream, and '459 teaches that it is desirable to further provide an ultrasonicator for a filter member after sonicating a stream of dispersed particles to break up the agglomeration so as to provide further deagglomeration.

Appellants submit the Examiner has not pointed to any suggestion within the '459 reference for combining the reference that relates to the homogenizing and conveyance of a mixture of radioactive fuel residue with a reference for a composition and method for the production of magnetic recording medium to arrive at Appellant's disclosure. Further, and as discussed above, '459 is nonanalogous art. For purposes of evaluating the obviousness of claimed subject matter, one must make certain that a particular reference relied upon constitutes "analogous art." *In re Clay*, 966 F.2d 656,

658-659 (Fed. Cir. 1992). The Examiner has stated that it has been held that a prior art reference must either be in the field of the Applicant's endeavor, or, if not, then reasonably pertinent to the particular problem with which the Applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992). Appellants assert it has also been held that to be analogous art, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

A person of ordinary skill in the imaging toner art will not likely know about references in the radioactive fuel reclamation art. Further, the problems associated with treating spent nuclear reactor fuel elements are not reasonably related to problems in the imaging arts. The '459 reference relates to treating a residue resulting from dissolving spent nuclear reactor fuel elements in hot nitric acid, and would not have logically commended itself to the present inventor's attention in considering his problem. Appellants assert that the problems associated with treating spent nuclear reactor fuel elements are not reasonably related to the problems in the imaging arts. For this reason, an inventor would not logically look to the '459 reference for guidance in solving problems faced in the imaging arts. A person of ordinary skill in the imaging arts would have no motivation to consider radioactive fuel reclamation art in solving problems in the imaging arts. This is especially true in view of the toxicity issues driving radioactive fuel reclamation that do not drive the present invention.

Appellants submit that the '459 reference is not analogous art and the rejection of claims 21, 23, and 25-56 under 35 U.S.C. § 103(a) over Kawasaki in view of '459 is thus improper and must be reversed.

**E. The Rejection of Claim 11 Under 35 U.S.C. § 103(a) as Being Unpatentable Over Kawasaki in view of Hochberg and Further in view of Min Must Be Reversed**

In support of the rejection of claim 11 under 35 U.S.C. § 103(a), the Examiner has stated that Kawasaki in view of Hochberg teaches all the features of these claims except the gas carrier vehicle, and Min teaches a process for sonicating a stream containing a dispersion of agglomerated primary particles. The Examiner believes it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kawasaki in view of Hochberg to use the sonicating process to also sonicate particles in dispersion in a gas stream as suggested by Min with an expectation of desirable coating results, because Kawasaki in view of Hochberg teaches a desirable sonication process to provide dispersed particles, and Min teaches that it is desirable to sonicate suspended in air as well as liquid.

Appellants submit the Examiner has failed to point out in reference to Min any suggestion, motivation, or incentive for combining an apparatus for the deflocculation of a dry suspension of fibers with a method for the production of magnetic recording media, together with a composition and method of preparing toner. Additionally, the Examiner has failed to explicitly say what the references implied that would suggest of motivate one of ordinary skill to combine the references.

Moreover, Min is nonanalogous art. For purposes of evaluating the obviousness of claimed subject matter, one must make certain that a particular

reference relied upon constitutes “analogous art.” *In re Clay*, 966 F.2d 656, 658-659 (Fed. Cir. 1992). The Examiner has stated that it has been held that a prior art reference must either be in the field of the Applicant’s endeavor, or, if not, then reasonably pertinent to the particular problem with which the Applicant was concerned , in order to be relied upon as a basis for rejection of the claimed invention. *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992). Appellants assert it has also been held that to be analogous art, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem. *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

A person of ordinary skill in the imaging toner art will not likely know about references in the paper making art. Moreover, the disclosure of Min would not be “logically commended” to an inventor in the imaging arts field. The Examiner has not shown why one of ordinary skill in the imaging arts would have motivation to turn to the paper arts to solve problems in the field of imaging arts. Furthermore, the Examiner has shown no motivation, either explicit or implicit, in any of the three cited references that would lead one of ordinary skill in the imaging arts to combine a reference relating to magnetic recording media with a reference from the paper arts.

Because Min is nonanalogous art, Appellants assert claim 11 is not obvious over Kawasaki in view of Hochberg and further in view of Min. Accordingly, the 35 U.S.C. § 103(a) rejection of claim 11 is improper and must be reversed.

**F. Conclusion**

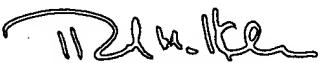
Appellants submit that claims 1, 4-12, 15-21, 23, and 25-27 are in condition for allowance.

Accordingly, it is requested that the Examiner's rejections of claims 1, 4-12, 15-21, 23, and 25-27 be reversed.

Respectfully submitted,

FAY, SHARPE, FAGAN,  
MINNICH & McKEE, LLP

11/19/2003  
Date



Richard M. Klein  
Reg. No. 33,000  
1100 Superior Avenue, 7<sup>th</sup> Floor  
Cleveland, Ohio 44114-2579  
(216) 861-5582

9. APPENDIX:

1. (Previously Presented) A method comprising:  
sonicating a stream containing a dispersion comprised of agglomerated primary particles; filtering the resulting sonicated stream containing a dispersion comprised of de-agglomerated primary particles and further comprising coating the resulting sonicated stream onto a receiver surface wherein the receiver surface is a coated photoreceptor substrate and wherein the de-agglomerated primary particles are separated in the resulting sonicated stream.
2. (Cancelled).
3. (Cancelled).
4. (Previously Presented) The method in accordance with **claim 1**, wherein the primary particles are toner particles comprised of a mixture of at least one colorant and a resin.
5. (Original) The method in accordance with **claim 1**, wherein the agglomerated primary particles are present in the stream in an amount of from about 0 to about 60 weight percent based on the total weight of the stream

6. (Original) The method in accordance with **claim 1**, wherein the de-agglomerated primary particles have a volume average diameter of from about 0.005 to about 20 micrometers.

7. (Original) The method in accordance with **claim 1**, wherein the primary particle is at least one colorant.

8. (Original) The method in accordance with **claim 1**, wherein the filtering removes at least one objectionable contaminant contained in the stream of de-agglomerated primary particles.

9. (Original) The method in accordance with **claim 8**, wherein the contaminant has an average diameter particle size greater than the average diameter of ultrasonically de-agglomerated particles.

10. (Original) The method in accordance with **claim 1**, wherein the stream further comprises a continuous liquid phase carrier vehicle.

11. (Original) The method in accordance with **claim 1**, wherein the stream further comprises a continuous gas phase carrier vehicle.

12. (Original) The method in accordance with **claim 1**, wherein the sonication is accomplished with at least one ultrasonic member.

13. (Cancelled).

14. (Cancelled).

15. (Original) The method in accordance with **claim 1**, further comprising sonicating the filter media with a second sonicator during the filtering of the sonicated stream.

16. (Original) The method in accordance with **claim 1**, further comprising measuring the stream pressure just prior to filtering.

17. (Original) The method in accordance with **claim 1**, further comprising re-agglomerating the resulting de-agglomerated primary particles.

18. (Original) The method in accordance with **claim 1**, further comprising analyzing the sonicated stream for third particles arising from degradation of the primary particles during sonication.

19. (Original) The method in accordance with **claim 1**, the stream of agglomerated or de-agglomerated particles further comprises at least one surfactant.

20. (Original) A method comprising:

ultrasonicallyating a stream of a dispersion of agglomerated photosensitive particles;

filtering the resulting ultrasonicated stream containing a dispersion of de-agglomerated photosensitive particles; and

coating the resulting ultrasonicated stream onto a receiver surface.

21. (Previously Presented) An apparatus comprising:

an ultrasonicator adapted to ultrasonicate a stream of a liquid dispersion of agglomerated primary particles; a filter member adapted to filter the resulting ultrasonicated stream containing a dispersion of de-agglomerated primary particles; and further comprising a second ultrasonicator adapted to ultrasonicate the filter member and a coater adapted to coat the resulting filtered stream containing a dispersion of de-agglomerated primary particles onto a receiver.

22. (Cancelled).

23. (Original) The apparatus in accordance with claim 22, wherein the coated receiver is substantially free of agglomerated primary particles.

24. (Cancelled).

25. (Previously Presented) The apparatus in accordance with claim 21, wherein the second ultrasonicator ultrasonicates the filter member when the coater is inactive.

26. (Previously Presented) A method comprising:  
sonicating a stream containing a dispersion comprised of agglomerated primary particles; filtering the resulting sonicated stream containing a dispersion comprised of de-agglomerated primary particles, further comprising sonicating the filter media with a second sonicator during the filtering of the sonicated stream; and coating the resulting filtered stream containing a dispersion of de-agglomerated primary particles onto a receiver.

27. (Previously Presented) An apparatus comprising:  
an ultrasonicator adapted to ultrasonicate a stream of a liquid dispersion of agglomerated primary particles;  
a filter member adapted to filter the resulting ultrasonicated stream containing a dispersion of de-agglomerated primary particles; and  
a coater adapted to coat the resulting filtered stream containing a dispersion of de-agglomerated primary particles onto a receiver, wherein the receiver is a coated photoreceptor substrate.